

CLAIMS

The subject matter claimed is:

1. A conversion kit for reconfiguring a hay rake, said hay rake comprising a frame, two rake arms, a plurality of
5 rotating tined wheels disposed on said rake arms, each of the plurality of rotating tined wheels having a leading face and a trailing face, said conversion kit comprising:

a left boom comprising a first end and a second end, said first end configured to be attached to said frame in place of
10 one of the rake arms and said second end providing an alternative point of attachment for one of the rake arms;

a right boom comprising a first end and a second end, said first end configured to be attached to said frame in place of one of the rake arms and said second end providing an
15 alternative point of attachment for one of the rake arms; and

wherein said left and right booms may be interposed between said frame and rake arms such that each of the plurality of rotating tined wheels is supported from its trailing face.

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2. The conversion kit of claim 1 wherein the left and right booms each further comprises a cantilevered arm, said cantilevered arm configured to be attached to a brace member

to stabilize its respective boom, said brace member also being attached to said frame.

3. The conversion kit of claim 2 wherein the brace
5 member is selected from the group consisting of an elongated piece of metal, a rope, a nylon strap, a chain and a cable.

4. The conversion kit of claim 1 wherein the left and
the right booms each extend upwardly from the first end to an
10 apex and then downwardly to the second end such that each boom passes over the rake arm attached to its second end when installed on said frame.

5. The conversion kit of claim 4 wherein the left and
15 right booms comprise tubular metal.

6. The conversion kit of claim 5 wherein the left and
right booms each further comprise a support brace disposed at
the apex.

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7. The conversion kit of claim 5 wherein the left and
right booms each further comprise a cantilevered arm, said
cantilevered arm configured to be attached to a brace member

to stabilize its respective boom, said brace member also being attached to said frame.

8. The conversion kit of claim 7 wherein the brace
5 member is selected from the group consisting of an elongated piece of metal, a rope, a nylon strap, a chain and a cable.

9. The conversion kit of claim 5 wherein the first end
of each of the booms comprises an extended portion whereby
10 each of the booms is coupled to said frame when the extended portion is inserted into an housing on the frame.

10. The conversion kit of claim 9 wherein the extended
portion further comprises a flange whereby each of the booms
15 is locked in place when the flange engages a locking plate coupled to said housing.

11. The conversion kit of claim 10 wherein the locking
plate is coupled to said housing by a pin.

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12. The conversion kit of claim 9 wherein the second end
of each of the booms comprises a housing adapted to receive an
extended portion of a rake arm.

13. The conversion kit of claim 12 wherein the housing further comprises a flange whereby a locking plate may be used to secure the rake arm to the boom, said locking plate engaging the flange on the housing of the boom as well as a
5 flange on the rake arm.

14. A conversion kit for reconfiguring a hay rake, said hay rake comprising a frame, two rake arms, a plurality of rotating tined wheels disposed on said rake arms, each of the plurality of rotating tined wheels having a leading face and
5 a trailing face, said conversion kit comprising:

a left boom comprising a first end and a second end, said first end configured to be attached to said frame in place of one of the rake arms and said second end providing an alternative point of attachment for one of the rake arms;

10 a right boom comprising a first end and a second end, said first end configured to be attached to said frame in place of one of the rake arms and said second end providing an alternative point of attachment for one of the rake arms; and

wherein said left and right booms may be interposed
15 between said frame and rake arms such that each of the plurality of rotating tined wheels is supported from its trailing face and both the left and right booms pass over the rake arm attached to their second ends.

20 15. The conversion kit of claim 14 wherein the left and right booms each further comprise a cantilevered arm having an attached end and a free end, said free end configured to be

attached to a brace member to stabilize its respective boom,
said brace member also being attached to said frame.

16. The conversion kit of claim 15 wherein the brace
5 member is selected from the group consisting of an elongated
piece of metal, a rope, a nylon strap, a chain and a cable.

17. The conversion kit of claim 14 wherein the frame
further comprises a left and a right housing, said housings
10 each having a hollow interior, said first ends of said left
and right booms further comprising an extended portion, said
left and right housings each receiving the extended portion of
the left and right booms, respectively, when said booms are
removably attached to said frame.

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18. The conversion kit of claim 17 wherein the extended
portion of the left and the right booms each further comprises
a flange, a locking plate coupled to said left or right
housings engaging said flange to hold its respective boom in
20 place.

19. The conversion kit of claim 18 wherein the second
ends of the left and the right booms further comprises a

housing for receiving an extended portion of one of the rake arms.

20. The conversion kit of claim 14 wherein said left and
5 right booms comprise tubular metal.

21. The conversion kit of claim 20 wherein the left and
the right booms each extend upwardly from the first end to an
apex and then downwardly to the second end such that the left
10 and the right booms pass over the rake arm attached to their
second ends when installed on said frame.

22. The conversion kit of claim 21 wherein the left and
the right booms each further comprise a support brace disposed
15 at the apex.

23. The conversion kit of claim 21 wherein the left and
the right booms each further comprises a cantilevered arm
having an attached end and a free end, said free ends of the
20 cantilevered arms being attached to a chain, said chain also
attached to said frame through an eyelet.

24. A conversion kit for reconfiguring a hay rake, said hay rake comprising a frame, two rake arms, a plurality of rotating tined wheels disposed on said rake arms, each of the plurality of rotating tined wheels having a leading face and
5 a trailing face, said conversion kit comprising:

a positioning means for reorientating the rake arms;

a first coupling means for attaching the positioning means to the frame;

a second coupling means for attaching the rake arms to
10 the positioning means; and

wherein said positioning means may be installed on said frame by said first coupling means and said rake arms may be installed on said positioning means by said second coupling means such that each of the rotating tined wheels is supported
15 from its trailing face.

25. The conversion kit of claim 24 further comprising a bracing means for stabilizing the positioning means.

20 26. The conversion kit of claim 24 wherein at least part of the positioning means passes over the rake arms when installed on the frame.

27. The conversion kit of claim 26 wherein the positioning means comprises a left and a right boom.

28. The conversion kit of claim 27 wherein the first
5 coupling means comprises an extended portion on both the left and the right booms and a left and a right housing on the frame, said extended portions sliding into said housings.

29. The conversion kit of claim 28 wherein the second
10 coupling means comprises a housing on both the left and the right booms and an extended portion on both of the rake arms, the extended portion of the rake arms sliding into said housings.

30. An apparatus for raking cut crops into windrows while being pulled through a field, said apparatus comprising:

a frame;

a left boom, said left boom having a first end and a second end, said first end coupled to said frame and said second end coupled to a left rake arm;

a right boom, said right boom having a first end and a second end, said first end coupled to said frame and said second end coupled to a right rake arm;

a plurality of rotating tined wheels disposed on said left and right rake arms, each of the plurality of rotating tined wheels having a leading face and a trailing face; and

wherein both the left and right booms extend from the frame over the respective left or right rake arm attached to their second ends such that each of the rotating tined wheels is supported from its trailing face.

31. The apparatus of claim 30 wherein both the left and the right booms each further comprises a cantilevered arm attached to a brace member, said brace member being attached to said frame.

32. The apparatus of claim 31 wherein the brace member is selected from the group consisting of an elongated piece of metal, a rope, a nylon strap, a chain and a cable.

5 33. The apparatus of claim 30 wherein both the left and the right booms each extend upwardly from the first end to an apex and then downwardly to the second end such that the left and the right booms pass over the rake arm attached to their second ends.

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34. The apparatus of claim 33 wherein both the left and the right booms are removably coupled to the frame and to their respective left or right rake arms.

15 35. The apparatus of claim 34 wherein the frame further comprises a left and a right hydraulic lift, said left and right hydraulic lifts may be used when raising and lowering the left and the right rake arms, respectively.

20 36. The apparatus of claim 30 wherein the second ends of the left and right booms are free floating.

37. A method for converting a hay rake, said hay rake comprising a frame, a pair of rake arms disposed on said frame, and a plurality of rotating tined wheels disposed on said rake arms, each of the plurality of rotating tined wheels
5 having a leading face and a trailing face, said method comprising the steps of:

removing the pair of rake arms from said frame;

attaching a pair of booms to said frame in place of said pair of rake arms; and

10 reattaching each of the pair of rake arms to one of the booms such that each of the plurality of rotating tined wheels is supported from its trailing face.

38. The method of claim 37 further comprising the step
15 of attaching a brace member to a cantilevered arm extending from each of the pair of booms and to the frame.

39. The method of claim 38 wherein the brace member is selected from the group consisting of an elongated piece of
20 metal, a rope, a nylon strap, a chain and a cable.

40. The method of claim 38 wherein the step of attaching the pair of booms further comprises the step of inserting an

extended portion of each of the pair of booms into a housing on said frame.

41. The method of claim 40 wherein the step of
5 reattaching each of the pair of rake arms comprises the step of inserting an extended portion of each of the pair of rake arms into a boom housing disposed on one of the pair of booms.

42. The method of claim 41 further comprising the step
10 of attaching a brace member to a cantilevered arm extending from each of the pair of booms and to the frame.

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